

## WHAT IS CLAIMED IS:

1. A borosilicate glass with a composition in a percent by weight on an oxide basis, including: 60 - 75% SiO<sub>2</sub>, 10 - 15% B<sub>2</sub>O<sub>3</sub>, 5 - 15% Na<sub>2</sub>O, 5 - 10% K<sub>2</sub>O, 0.1 - 1% CaO, 0.5 - 3% BaO, > 0 - 1.7% TiO<sub>2</sub>, 0 - 0.5% Sb<sub>2</sub>O<sub>3</sub>, and normal refining agents.
2. A borosilicate glass according to claim 1, wherein the composition in the percent by weight on the oxide basis includes 65 - 75% SiO<sub>2</sub>, 10 - 13% B<sub>2</sub>O<sub>3</sub>, 6 - 12% Na<sub>2</sub>O, 5 - 10% K<sub>2</sub>O, 0.1 - 0.5% CaO, 0.5 - 2.5% BaO, 0 - 1.7% TiO<sub>2</sub>, 0 - 0.5% Sb<sub>2</sub>O<sub>3</sub>, and normal refining agents.
3. A borosilicate glass according to claim 2, wherein the composition in a second percent by weight on a second oxide basis further includes 0.5 - 2.5% SrO, 0.1 - 1% Mg, and 0 - 5% Li<sub>2</sub>O.
4. A borosilicate glass according to claim 3, wherein the composition is free of As<sub>2</sub>O<sub>3</sub>, PbO and CeO<sub>2</sub>, apart from unavoidable impurities.
5. A borosilicate glass according to claim 4 having steep edge situations  $\lambda_c$  between 280 nm and 325 nm and a pure transmission degree of  $\tau_{ip}$  in a pass range of greater than 98% and an optical density in a stop range of  $1 * 10^{-5}$  with a sample thickness of 2 mm.

6. A borosilicate glass according to claim 5, having an edge situation in a range between 280 to 295 nm, and a TiO<sub>2</sub> content of greater than 0 to 0.1% by weight on an oxide basis.

7. A borosilicate glass according to claim 5, having an edge situation in a range between 290 and 305 nm, and a TiO<sub>2</sub> content of 0.05 to 0.3% by weight on an oxide basis.

8. A borosilicate glass according to claim 5, having an edge situation in a range between 300 to 315 nm, and a TiO<sub>2</sub> content of 0.16 to 0.8% by weight on an oxide basis.

9. A borosilicate glass according to claim 5, having an edge situation in a range between 310 to 325 nm, and a TiO<sub>2</sub> content of 0.5 to 1.7% by weight on an oxide basis.

10. A borosilicate glass according to claim 9, used for producing filter glass for UV cut-off filters in at least one of a UVB range and a UVC range.

11. A borosilicate glass according to claim 10, used for producing filter glass for one of illumination tables and weathering instruments.

12. A borosilicate glass according to claim 10, used for producing optical glass for imaging optics, projection, telecommunications, optical telecommunications technology and microlithography.

13. A borosilicate glass according to claim 12, having a transformation temperature  $T_g$  greater than  $560^{\circ}\text{C}$ , with a thermal expansion coefficient  $\alpha_{(20/300)}$  between  $7.5$  and  $8.8 \cdot 10^{-6}/\text{K}$ , and steep edge situations between  $275 \text{ nm}$  and  $325 \text{ nm}$ .

14. A borosilicate glass according to claim 1, wherein the composition in a second percent by weight on a second oxide basis further includes  $0.5 - 2.5\%$   $\text{SrO}$ ,  $0.1 - 1\%$   $\text{Mg}$ , and  $0 - 5\%$   $\text{Li}_2\text{O}$ .

15. A borosilicate glass according to claim 1, wherein the composition is free of  $\text{As}_2\text{O}_3$ ,  $\text{PbO}$  and  $\text{CeO}_2$ , apart from unavoidable impurities.

16. A borosilicate glass according to claim 1 having steep edge situations  $\lambda_c$  between  $280 \text{ nm}$  and  $325 \text{ nm}$  and a pure transmission degree of  $\tau_{ip}$  in a pass range of greater than  $98\%$  and an optical density in a stop range of  $1 \cdot 10^{-5}$  with a sample thickness of  $2 \text{ mm}$ .

17. A borosilicate glass according to claim 1, having an edge situation in a range between 280 to 295 nm, and a TiO<sub>2</sub> content of greater than 0 to 0.1% by weight on an oxide basis.

18. A borosilicate glass according to claim 1, having an edge situation in a range between 290 and 305 nm, and a TiO<sub>2</sub> content of 0.05 to 0.3% by weight on an oxide basis.

19. A borosilicate glass according to claim 1, having an edge situation in a range between 300 to 315 nm, and a TiO<sub>2</sub> content of 0.16 to 0.8% by weight on an oxide basis.

20. A borosilicate glass according to claim 1, having an edge situation in a range between 310 to 325 nm, and a TiO<sub>2</sub> content of 0.5 to 1.7% by weight on an oxide basis.

21. A borosilicate glass according to claim 1, used for producing filter glass for UV cut-off filters in at least one of a UVB range and a UVC range.

22. A borosilicate glass according to claim 1, used for producing filter glass for one of illumination tables and weathering instruments.

23. A borosilicate glass according to claim 1, used for producing optical glass for imaging optics, projection, telecommunications, optical telecommunications technology and microlithography.

24. A borosilicate glass according to claim 1, having a transformation temperature  $T_g$  greater than  $560^{\circ}\text{C}$ , with a thermal expansion coefficient  $\alpha_{(20/300)}$  between  $7.5$  and  $8.8 \cdot 10^{-6}/\text{K}$ , and steep edge situations between  $275 \text{ nm}$  and  $325 \text{ nm}$ .